

Remarks

The Applicant respectfully requests entry of the above Amendments, and consideration of the application as amended.

By these amendments, the Applicant has amended claims 9 and 31 to address the formality objections that appear in the Action and to more clearly define the invention for which protection is sought. Claim 10 has been canceled. No new matter was introduced and no amendments were made to overcome prior art.

The Applicant also amended claim 22 to introduce the limitations of claim 24 into claim 22. Claim 24 has been canceled. New claims 78-82 have been introduced.

The Applicant submits that claims 9, 11-13, 22, 23, 25-40, 42-44, 48-51, 54 and 59-82 are now pending in this application. Claims 27-30, 32-40, 42-44, 50, and 51 are withdrawn.

The Applicant advises the Patent Office that a Fifth Supplementary Information Disclosure Statement and Citation are being filed with this Response. This Citation identifies related pending applications and references cited in related applications to comply with the Applicant's duty of candor.

Response to Claim Objections

In paragraph 1 on page 2 of the Office Action, the Patent Office objected to the word "whereby" in claims 9 and 31. As suggested by the Patent Office, in the above Amendment, the Applicant replaced "whereby" with "wherein". The Applicant believes that this Amendment overcomes this objection.

Response to Rejections Pursuant to 35 USC §102 based upon Cox

In paragraphs 3 and 4 on pages 2 and 3 of the Office Action, the Patent Office rejected claims 9-13, 31, 48, 49, 54, 59-64, 75 and 76 pursuant to 35 U.S.C. 102(b) as anticipated by U.S. Patent 5,290,294 of Cox, et al. [herein "Cox"]. However, the Applicant respectfully submits that this rejection is inappropriate and respectfully requests that the Patent Office reconsider this rejection in view of the following comments.

MPEP § 2131 defines the conditions under which an anticipation rejection is appropriate:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim...

With respect to the rejection of claim 9, the Applicant submits that Cox does not set forth every element set forth in claim 9 and does not disclose the identical invention shown in as complete detail as recited in claim 9. Therefore, the Applicant submits that Cox does not anticipate the invention of claim 9. The Applicant believes that the Patent Office has misinterpreted Cox.

Again, claim 9 was amended to address the formality objections that appear in the Action and to more clearly define the invention for which protection is sought. No new matter was introduced and no amendments were made to overcome prior art.

In view of the repeated rejections of claim 9 and its dependents, the Applicant believes that it would be beneficial to briefly review this aspect of the invention. As most clearly recited in claim 9, this aspect of the present invention comprises a trocar having a cannula and obturator for use in surgery, for example, arthroscopy surgery. According to this aspect of the present invention, the cannula and obturator are adapted to cooperate through the interaction between respective bearing or camming surfaces when the obturator is rotated relative to the cannula. The interaction of the bearing surfaces causes the obturator to axially deflect relative to the cannula whereby the obturator is, for example, dislodged from a body cavity and thus more readily removed from the patient and the cannula. It is the interaction between the bearing or camming surfaces that causes the desired deflection of the obturator.

This aspect of the invention is particularly effective when used in conjunction with the aspect of the invention recited in claim 22. Claim 22 recites a cannula having a flexible, smooth, and continuous open end through which an obturator passes. The axial deflection of the obturator effected by the aspect of the invention recited in claim 9 is sufficient to deflect the flexible open end of the cannula to allow an obturator to pass through the open end of the cannula and be removed. The smooth and continuous open end also minimizes entanglement of any tissue or sutures that can typically encumber use of conventional slotted cannulas.

As noted by the Patent Office, Cox discloses a medical instrument having a cannula-type structure (12) and an obturator type structure (86), however, contrary to the invention recited in claim 9, these structures do not included any type of "bearing surfaces" that function as recited in amended claim 9. Since the Action does not explicitly identify which structures in Cox provide the function of "bearing surfaces", the Applicant contacted Examiner Desanto to request clarification of this rejection. In a phone conversation with Examiner Desanto on June 2, 2003 (as documented in the Interview Summary dated the same day), Examiner Desanto identified "grooves" 22 and "C-clips" 24 shown in Figures 3 and 4 as the respective bearing surfaces disclosed by

Cox. The Applicant respectfully submits that these features of Cox in no way provide the function of the claimed bearing surfaces recited in claim 9.

Contrary to the statement made by the Patent Office, the grooves 22 and clips 24 of Cox are not “adapted to slidably engage the first bearing surface and axially move the obturator when the obturator is rotated relative to the cannula” as claimed. As described clearly in lines 55-66 of column 5 of Cox, clips 24 and grooves 22 engage so that the cannula and obturator are “locked together”. There is absolutely no disclosure, teaching, or suggestion in Cox that the grooves 22 and clips 24 interact to axially move the obturator. For this reason alone, the rejection of claim 9 as anticipated by Cox is inappropriate. The Applicant respectfully requests that the rejections of claim 9 and its dependent claims 11-13, 48, 49, and 59-64 be reconsidered and withdrawn.

With respect to the rejection of claim 31 due to Cox, the same arguments above that apply to claim 9 also apply to the rejection of claim 31. However, in addition to the arguments related to the rejection of claim 9, the further limitations recited in claim 31 are clearly not disclosed, taught, or suggested by Cox. Specifically, nowhere in Cox is it disclosed, taught or suggested that the axial deflection of the obturator in any way causes a surface of the cannula to radially deflect, as recited in claim 31. The Applicant respectfully requests that the rejection of claim 31 and its dependents 75 and 76 be withdrawn.

Response to Rejections Pursuant to 35 USC §102 based upon Schwemberger

In paragraph 5 on pages 3 and 4 of the Office Action, the Patent Office rejected claims 9-13, 31, 48, 49, 54, 59-62, and 65 pursuant to 35 U.S.C. 102(b) as anticipated by U.S. Patent 5,997,510 of Schwemberger [herein “Schwemberger”]. However, the Applicant respectfully submits that this rejection is inappropriate and respectfully requests that the Patent Office reconsider this rejection in view of the following comments.

With respect to the rejection of claim 9, the Applicant submits that Schwemberger does not set forth every element set forth in claim 9 and does not disclose the identical invention shown in as complete detail as recited in claim 9. Therefore, Schwemberger does not anticipate the invention of claim 9. The Applicant believes that the Patent Office has misinterpreted Schwemberger.

As noted by the Patent Office, Schwemberger does disclose a medical instrument having a cannula-type structure (82) and an obturator-type structure (45); however, contrary to the invention recited in claim 9, these structures do not include any type of "bearing surfaces" that function as recited in amended claim 9. Again, since the Action does not explicitly identify which structures in Schwemberger provide the function of "bearing surfaces", the Applicant discussed this rejection with Examiner Desanto in the phone conversation referenced above. In this phone conversation, Examiner Desanto identified pins 33 and pin slots 94 shown in Figure 5 as the bearing surfaces of Schwemberger. The Applicant respectfully submits that these features of Schwemberger in no way provide the function of the claimed bearing surfaces recited in claim 9.

As disclosed in lines 44-53 of column 6 of Schwemberger, the pins 33 and slots 94 comprise a locking mechanism in which "the obturator assembly 30 can be locked to the cannula assembly 80 by rotating the retaining pins 33 into the pin slots 94" [Emphasis added.]. Clearly, even if these structures can be considered "bearing surfaces" (which they are not in the context of the present invention), these structures do not provide surfaces "adapted to... axially move the obturator when the obturator is rotated relative to the cannula", as claimed. First, there is no adaptation of these structures of Schwemberger to axially move their obturator when the obturator is rotated. The surfaces of slots 94 are essentially horizontal and any movement of pins 33 in slots 94 will not induce axial movement of the obturator. Only when the obturator 30 is manually removed from cannula 80 does the obturator move axially relative to the cannula, and this axial movement has nothing whatsoever to do with the surfaces of pins 33 and slots 94. In addition, the locking of the pins 33 with slots 94 inherently

prevents the obturator 30 of Schwemberger from moving in any direction, axially or otherwise.

For these reasons, again, the Applicant submits that Schwemberger does not anticipate the invention recited in claim 9. The Applicant respectfully requests that the rejections of claim 9 and its dependent claims 11-13, 48, 49, 59-62 and 65 be reconsidered and withdrawn.

With respect to the rejection of claim 31 due to Schwemberger, the same arguments above that apply to claim 9 also apply to the rejection of claim 31. However, in addition to the arguments related to the rejection of claim 9, the further limitations recited in claim 31 are clearly not disclosed, taught, or suggested by Schwemberger. Specifically, nowhere in Schwemberger is it disclosed, taught or suggested that the axial deflection of the obturator in any way causes a surface of the cannula to radially deflect, as recited in claim 31. The Applicant respectfully requests that the rejection of claim 31 and its dependent claim 54 be reconsidered and withdrawn.

Response to Rejections Pursuant to 35 USC §102 based upon Taylor

In paragraph 6 on page 4 of the Office Action, the Patent Office rejected claims 9-13 and 31 pursuant to 35 U.S.C. 102(b) as anticipated by U.S. Patent 4,405,307 of Taylor [herein "Taylor"]. However, the Applicant respectfully submits that this rejection is inappropriate and respectfully requests that the Patent Office reconsider this rejection in view of the following comments.

With respect to the rejection of claim 9, the Applicant submits that Taylor does not set forth every element set forth in claim 9 and does not disclose the identical invention shown in as complete detail as recited in claim 9. Therefore, the Applicant submits that Taylor does not anticipate the invention of claim 9. Again, the Applicant believes that the Patent Office has misinterpreted Taylor.

Contrary to the comments made by the Patent Office, Taylor does not disclose a trocar assembly having a cannula and an obturator. As recited in its title, Taylor discloses a "Needle Assembly and Method for Fabricating the Same". For this reason alone, Taylor does not anticipate the present invention and this rejection should be withdrawn.

Again, since the Action does not explicitly identify which structures in Schwemberger provide the function of "bearing surfaces", the Applicant discussed this rejection with Examiner Desanto in the phone conversation referenced above. In this phone conversation, Examiner Desanto identified "protrusion" 44 and "notch" 26 shown in Figures 1-3 as the "bearing surfaces" disclosed by Taylor. Again, the Applicant respectfully submits that these features of Taylor in no way provide the function of the claimed bearing surfaces recited in claim 9.

As described in lines 25-38 of column 5 of Taylor, the protrusion 44 is received by notch 26 to ensure "the rotational and longitudinal alignment" of beveled point 34 of the stylet 32 and the beveled point 14 of the cannula 12. (Note that in several locations in this passage protrusion 44 is mislabeled "42".) Clearly, protrusion 44 and notch 26 do not move relative to each other, they are meant to engage to prevent movement, or more specifically, to ensure "the rotational and longitudinal alignment" of the needle with the cannula. Thus, even if protrusion 44 and notch 26 could provide bearing surfaces (which they do not), such surfaces are not "adapted to... axially move the obturator when the obturator is rotated relative to the cannula", as claimed.

For these reasons, again, the Applicant submits that Taylor does not anticipate the invention recited in claim 9. The Applicant respectfully requests that the rejections of claim 9 and its dependent claims 11-13 be reconsidered and withdrawn.

With respect to the rejection of claim 31 due to Taylor, the same arguments above that apply to claim 9 also apply to the rejection of claim 31. However, in addition to the arguments related to the rejection of claim 9, the further limitations recited in

claim 31 are clearly not disclosed, taught, or suggested by Taylor. Specifically, nowhere in Taylor is it disclosed, taught, or suggested that the axial deflection of the obturator in any way causes a surface of the cannula to radially deflect, as recited in claim 31. The Applicant respectfully requests that the rejection of claim 31 be reconsidered and withdrawn.

Response to Rejections Pursuant to 35 USC §102 based upon Smith

In paragraph 7 on pages 4 and 5 of the Office Action, the Patent Office rejected claims 22-26, and 66-73 pursuant to 35 U.S.C. 102(b) as anticipated by U.S. Patent 5,807,338 of Smith, et al. [herein "Smith"]. However, the Applicant respectfully submits that this rejection is inappropriate and respectfully requests that the Patent Office reconsider this rejection in view of the following comments.

With respect to the rejection of claim 22, the Applicant submits that Smith does not set forth every element set forth in claim 22 and does not disclose the identical invention shown in as complete detail as recited in claim 22. Therefore, the Applicant submits that Smith does not anticipate the invention of claim 22. Again, the Applicant believes that the Patent Office has misinterpreted Smith.

Claim 22 was amended to introduce the limitations of claim 24 to claim 22. Claim 24 has been cancelled. Claim 22 now includes the limitation that the inside surface of the first end of the cannula be "flexible, smooth, and continuous".

Specifically, all the cannulas disclosed by Smith do not have ends that are "flexible, smooth, and continuous" as claimed. With respect to device disclosed in Figures 1 and 2 of Smith, obturator assembly 110 is clearly not a cannula. Even if obturator assembly 110 were considered a cannula (which would be an error), the end of obturator assembly 110 is clearly not smooth and continuous as claimed. Also in Figure 2, cannula 116 does not have an open end that is "flexible". Nothing in the

disclosure of Smith in anyway teaches or even suggests that the open end of cannula 116 is or can be flexible.

Furthermore, there is no disclosure in Figures 1 and 2 of Smith that the "first inside diameter of the first end of the cannula is smaller than the maximum diameter of the first end of the obturator" as claimed. As shown most clearly in Figure 1 of Smith, the open end of cannula 116 is clearly not smaller than the maximum diameter of the end of the obturator 128. This is consistent with the remainder of the disclosure of Smith, where the open end of cannula 116 is rigid, not flexible.

Figures 2A-13 of Smith disclose obturator assemblies only; there are no cannulas disclosed in any of these figures. Even if any one of these obturators were considered a cannula (which it is not), all of structures include open ends which are not smooth and continuous. All of these structures include some form of slits or "longitudinal slots 198" which allow for the passage of fins 200. In addition, open ends of cannulas 116 and 316 disclosed in Figures 14 and 18 of Smith, like cannula 116 in Figure 1, are also not flexible. Again, there is no teaching or suggestion in Smith that the open ends of cannulas 116 and 316 are or can be flexible. Again, there is no reason for these open ends to be flexible, since their corresponding obturators are smaller in diameter than these respective cannulas.

For these reasons, the Applicant submits that Smith does not anticipate the invention recited in claim 22. The Applicant respectfully requests that the rejections of claim 22 and its dependent claims 23, 25, 26, and 66-73 be reconsidered and withdrawn.

Furthermore, certain aspects of the claims dependent upon claim 22 are not anticipated or suggested by the disclosure of Smith. With respect to claim 23, none of the cannulas of Smith comprises a first end that is uniformly tapered from a second inside diameter, larger than the first inside diameter, to the first inside diameter. With respect to claim 67, none of the cannulas of Smith includes a head assembly having at least one

bearing surface. These inventions clearly further distinguish the present invention from Smith.

Response to Rejections Pursuant to 35 USC §102 based upon Flom

In paragraph 8 on page 5 of the Office Action, the Patent Office rejected claims 9, 10, 11, 13, 48, and 49 pursuant to 35 U.S.C. 102(b) as anticipated by U.S. Patent 5,971,960 of Flom, et al. [herein "Flom"]. However, the Applicant again respectfully submits that this rejection is inappropriate and respectfully requests that the Patent Office reconsider this rejection in view of the following comments.

With respect to the rejection of claim 9, the Applicant submits that Flom does not set forth every element set forth in claim 9 and does not disclose the identical invention shown in as complete detail as recited in claim 9. Therefore, the Applicant submits that Flom does not anticipate the invention of claim 9. Again, the Applicant believes that the Patent Office has misinterpreted Flom.

The Applicant submits that the distinctions between the present invention and the disclosure of Flom were fully discussed in the Response filed on May 12, 2003. For the sake of space, the entire Response filed on May 12, 2003, including those comments that appear on pages 8-10 that address Flom, is incorporated by reference herein in its entirety.

In paragraph 11 on page 5 of the present Action, the Patent Office identifies structure 36 of Flom as an "obturator" and structure 14 as a "cannula". However, according to lines 46-47 of column 3 of Flom, structure 36 is a "member...which is preferably a cylindrical tube". Though item 36 may be inserted into item 14, item 36 is not an obturator. The Applicant submits that structure 36 is not an obturator as defined in claim 9 or as defined by common usage in the art. Claim 9 recites that the obturator comprises "an elongated shaft having a pointed end". Though obturator 10 of Flom is consistent with this recitation, the proposed "obturator" item 36 is neither a shaft nor

pointed. In contrast, item 10 in Figure 1 is identified by Flom (3:11-12) as being an "obturator.

For these reasons, the Applicant submits that Flom does not anticipate the invention recited in claim 9. The Applicant respectfully requests that the rejections of claim 9 and its dependent claims 11, 13, 48, and 49 due to Flom be reconsidered and withdrawn.

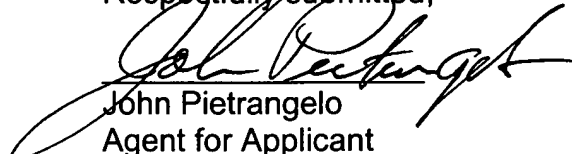
Furthermore, certain aspects of the claims dependent upon claim 9 are not anticipated or suggested by the disclosure of Flom. With respect to claim 48, the cannula of Flom does not include a bearing surface that is moveable relative to the cannula. With respect to claim 49, the obturator of Flom does not include a bearing surface that is moveable relative to the obturator. These inventions clearly further distinguish the present invention from Flom.

Conclusions

For all the above reasons, the Applicant maintains that the claims of the subject application define patentable subject matter and earnestly requests allowance of claims 9, 11-13, 22, 23, 25-40, 42-44, 48-51, 54 and 59-82.

If a telephone conference would be of assistance in advancing prosecution of the subject application, Applicant's undersigned Agent invites the Examiner to telephone him at the number provided.

Respectfully submitted,



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Dated: July 22, 2003

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